

Name \_\_\_\_\_ Date \_\_\_\_\_

### Identities 5

Prove.

1)  $\sin A + \cos A \cot A = \csc A$

2)  $\frac{\tan x}{\sec x} = \sin x$

3)  $\tan \theta + \cot \theta = \sec \theta \csc \theta$

4)  $\cos^2 \theta - \sin^2 \theta = 2 \cos^2 \theta - 1$

Evaluate using sum or difference formulas.

5)  $\cos \frac{7\pi}{12}$

6)  $\sin \frac{\pi}{12}$

7)  $\tan 75^\circ$

Let  $\cos A = -\frac{3}{5}$ , in QII, find

8)  $\sin 2A$

9)  $\tan 2A$

Let  $\sin B = -\frac{1}{3}$ , in QIII, find

10)  $\cos \frac{B}{2}$

11)  $\tan \frac{B}{2}$

Prove

12)  $2 \cot 2x = \cot x - \tan x$

13)  $\tan \frac{x}{2} = \csc x - \cot x$